

T2+

Universal System Controller



T2+

Operation Guide

v1.0



FEDERAL COMMUNICATIONS COMMISSION NOTICE

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC ID: MMURTI0200

CAN: 31661032251

BATTERY DISPOSAL



Li-ion

For environmental reasons, your T2+ universal system controller uses “environmentally sound” Lithium-ion rechargeable batteries. These batteries do not contain any poisonous heavy metals that can damage the environment.

In the interest of recycling, please do not dispose of these batteries in the household waste at the end of their useful life. Instead, dispose of them at an appropriate collection site.

SAFETY SUGGESTIONS

Read Instructions. Read all safety and operating instructions before operating the unit.

Heat. Keep the unit away from heat sources such as radiators, heat registers, stoves, etc., including amplifiers that produce heat.

Power Sources. Connect the docking station only to the power supply that was included with the unit. Recharge the battery only with the docking station that was included with the unit.

Power Cord Protection. Route power supply cords so that they are not likely to be walked on or pinched by items placed on or against them, paying particular attention to the cords at power receptacles and at the point at which they exit from the unit.

Nonuse Periods. Unplug the power supply from the outlet when the unit is to be left unused for a long period.

Water and Moisture. Do not use the unit near water—for example, near a sink, in a wet basement, near a swimming pool, near an open window, etc.

Object and Liquid Entry. Do not allow objects to fall or liquids to be spilled into the enclosure through openings.

Cleaning. The unit should be cleaned only as recommended in the operating guide.

Servicing. Do not attempt any service beyond that described in the operating guide. Refer all other service needs to qualified service personnel.

Damage Requiring Service. The unit should be serviced by qualified service personnel when:

- The power supply cord or the plug has been damaged.
- Objects have fallen or liquid has been spilled into the unit.
- The unit does not appear to operate normally or exhibits a marked change in performance.

LIMITED WARRANTY

Remote Technologies Incorporated warrants its products for a period of one (1) year from the date of purchase from Remote Technologies Incorporated or an authorized Remote Technologies Incorporated distributor.

This warranty may be enforced by the original purchaser and subsequent owners during the warranty period, so long as the original dated sales receipt or other proof of warranty coverage is presented when warranty service is required.

Except as specified below, this warranty covers all defects in material and workmanship in this product. The following are not covered by the warranty:

Damage resulting from:

1. Accident, misuse, abuse, or neglect.
2. Failure to follow instructions contained in this Guide.
3. Repair or attempted repair by anyone other than Remote Technologies Incorporated.
4. Causes other than product defects, including lack of skill, competence or experience of user.
5. Shipment of this product (claims must be made to carrier).
6. Being altered or which the serial number has been defaced, modified or removed.

Remote Technologies Incorporated is not liable for any damages caused by its products or for its failure of its products to perform, including any lost profits, lost savings, incidental damages, or consequential damages.

Remote Technologies Incorporated is not liable for damages based upon inconvenience, loss of use of the product, loss of time, interrupted operation, commercial loss, any claim made by a third party or made by you for a third party.

Remote Technologies Incorporated's liability for any defective product is limited to repair or replacement of the product, at our option.

If your T2+ needs service, please contact Remote Technologies Incorporated by telephone, fax or e-mail for return information. ***Please do not return products to RTI without return authorization.***

DISCLAIMER

All rights are reserved. No part of this document may be photocopied, reproduced, or translated without the prior written notice of Remote Technologies Incorporated.

The information contained in this document is subject to change without notice. Remote Technologies Incorporated shall not be liable for errors or omissions contained herein or for consequential damages in connection with the furnishing, performance, or use of this guide.

Microsoft and Windows are registered trademarks of Microsoft Corporation. Other brands and their products are trademarks or registered trademarks of their respective holders.

T2+, *It's Under Control*, *TheaterTouch*, and the RTI logo are trademarks of Remote Technologies Incorporated.

Contents

Federal Communications Commission Notice-----	i
Battery Disposal -----	ii
Safety Suggestions -----	ii
Limited Warranty-----	iii
Disclaimer -----	iv
Contents -----	v
Chapter 1. Welcome-----	1
Compatibility Note-----	1
Unpacking and Inspection-----	2
Product Contents-----	2
Software Requirements-----	2
Chapter 2. Introduction -----	3
Features -----	3
Important Notes-----	4
Cleaning -----	5
Battery and Docking Station -----	5
Getting Started-----	6
Remote Reference -----	7
Docking Station Reference-----	8
Chapter 3. Operation-----	9
The Touchscreen Display -----	9
The Control Panel Page -----	10
Adjust Contrast-----	10
Beeper -----	11
Time Out-----	11
Tilt switch -----	12
Change passcode -----	12

Clear all -----	14
Programming The T2+ -----	14
Chapter 4. Troubleshooting -----	15
Display is Dim, Blank or Unreadable -----	15
USB Communication Problems -----	15
IR Code Problems-----	15
Chapter 5. Service and Support-----	17
Updates and New Products-----	17
Contacting Remote Technologies Incorporated-----	17
RTI Technical Support -----	17
Specifications -----	19

Chapter 1. Welcome

Thank you for purchasing the *T2+* universal system controller. The *T2+* combines the power and flexibility of a graphic LCD touchscreen with an ergonomic design that permits effortless one-handed operation. This design overcomes the need for a compromise between form and function. Sleek and perfectly balanced, the *T2+* is infinitely flexible and expandable.

The *T2+* takes complete control of the home theater, replacing all other remotes. It features an intuitive, easy to read LCD that can display custom buttons, text, graphics, symbols, and scrolling lists. In addition to the backlit display, 33 “Hard” keypad buttons allow easy access to frequently used functions.

Programming is easy and convenient thanks to the Windows® based *TheaterTouch Designer™* software. Because RTI’s remote control products are sold only through professional installers/programmers, and never directly to consumers, it is our philosophy to not incorporate programming capability directly into our products. Instead, we are committed to providing our dealers with the hardware and software tools that allow them to create re-usable programming databases and templates in the most efficient and reliable way possible.

The *T2+* is capable of both infrared and radio frequency output. Optional RF receivers are available for transmission through walls and cabinets. The RF receivers connect to an RTI control system for the ultimate in control reliability and flexibility. RTI control systems provide many advanced features such as IR routing, local macro execution, power sensing, and RS-232 control.

COMPATIBILITY NOTE

The *T2+* and *TheaterTouch Designer* software are compatible with infrared (IR) commands with carrier frequencies between 15KhZ and 460KhZ, as well as those commands that do not use a carrier. This covers virtually all of the remotes that exist to date.

UNPACKING AND INSPECTION

After unpacking your new T2+ universal system controller, save all of the packing materials in case you ever have to ship the unit.

Thoroughly inspect the T2+ and packing materials for signs of damage. Report any damage to the carrier immediately. Report any equipment malfunctions to Remote Technologies Incorporated or an authorized Remote Technologies Incorporated distributor.

PRODUCT CONTENTS

Contents within the box include the following items:

- One (1) T2+ universal system controller
- One (1) Docking station.
- One (1) Universal power supply for docking station
- One (1) Operation guide.

SOFTWARE REQUIREMENTS

The minimum system requirements needed to run the *TheaterTouch Designer* software are as follows:

- Windows 98SE®, Windows ME®, Windows 2000®, Windows XP® or later version.
- A free USB port.
- At least 20 Megabytes of free disk storage.
- Screen resolution of 800x600 with 256 colors.
- A mouse is required.
- Optional printer for printing reports.

Chapter 2. Introduction

FEATURES

The *T2+* provides superior quality and reliability as well as these specific features:

- A replacement for all of the remote controls in a home theater. The *T2+* can reproduce all of the commands of almost any other infrared remote control.
- A programmable graphic display. The *T2+* uses powerful Windows® based software that makes it easy to place buttons, text, graphics, symbols and scrolling lists anywhere on the display.
- A high-contrast LCD with bright white backlight. The display is easy to read in any lighting condition.
- A digital matrix touchscreen that never needs calibrating.
- 33 backlit “hard” keypad buttons that allow easy access to frequently used functions.
- A light-weight, low-profile Lithium Ion rechargeable battery pack. The *T2+* can run continuously for several hours between charges. Because the remote is normally used only a few minutes per session, the unit typically will run for a week or more between charges. A built-in low battery indicator warns you when it’s time to recharge the battery.
- A macro function. This feature allows the *T2+* to perform a series of commands by pressing a single button. For example, you can create a macro called “Movie” that turns on the TV, sets the correct input, turns on the DVD player, dims the lights, and starts playing a movie.
- Both infrared (IR) and radio frequency (RF) output options. You can even use both options on the same unit.

- A built in motion sensor can automatically turn the unit on when it is picked up.
- A USB port for communication with the *TheaterTouch Designer* programming software.
- Non-volatile flash memory. The T2+ will not lose any programmed data when the battery is removed.
- One-year parts and labor warranty
- Available only to system integration professionals.

IMPORTANT NOTES

Please read these important notes about the T2+:

- The T2+ should be placed in an area where it is around normal room temperature (between 60°F to 90°F). If the temperature is too hot, the display appears dim. If the temperature is too cold, the display appears dark and may respond slowly.
- Do not use sharp objects on the touchscreen. It is designed to operate with a touch of your finger.
- Do not let the T2+ get wet. It should not be handled with wet hands or placed in an area where it could get wet.
- Do not subject the T2+ to smoke, dust, or vibrations. The display may be damaged from excessive shock or vibration.
- Only use the power supply that is provided with the T2+. Using the wrong type of power supply may result in damage to the battery or electronic components.
- Do not disassemble the unit. The T2+ contains a high voltage backlight circuit that may cause injury if contacted.

CLEANING

Occasional cleaning may be required, depending on use. It is recommended that you create a “Clean” button somewhere on the Home page of the *T2+*. This button should link to a page that does not contain commands or macros that could be inadvertently executed while cleaning the unit. The “Clean” page could contain a text message or graphic of your choosing such as:



To clean your *T2+*, lightly dampen a lint-free cloth with water or mild detergent and wipe the touchscreen, keypad and outer surfaces.

BATTERY AND DOCKING STATION

The *T2+* uses a Lithium-Ion rechargeable battery. This battery does not exhibit any type of “Memory Effect” from being charged too often. Since the *T2+* can safely be charged after each use, a docking station is included for convenience. If left out of the docking station, the *T2+* will remain in sleep mode for 1 – 2 months before shutting down. At that point the battery must be recharged.

The *T2+* Docking Station can be placed on a flat surface such as a shelf or table, or it can be mounted to a wall using the mounting holes on the back of the unit.

If the *T2+* battery capacity is reduced to approximately one hour of remaining run-time, a low battery icon will appear in the upper left corner of the display:



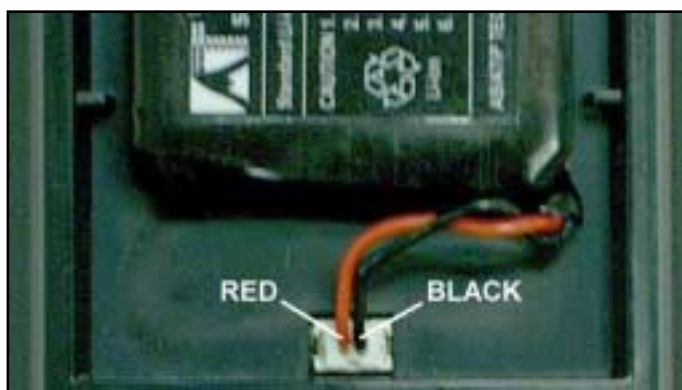
The docking station LED illuminates to indicate a charge in progress. The LED will turn off when the battery in the unit is fully charged.

A fully discharged battery will take approximately 2-4 hours to completely re-charge.

The *T2+* can remain in the docking station indefinitely without damage to the battery.

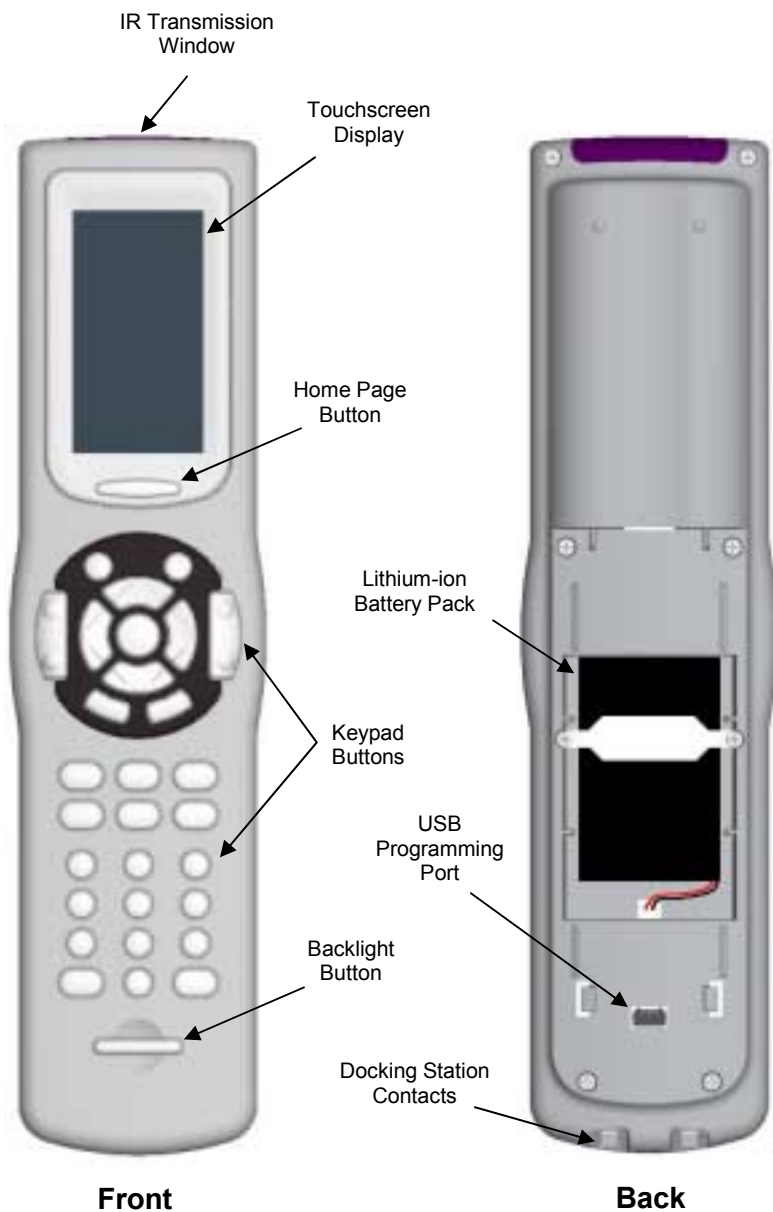
GETTING STARTED

Start by inserting the battery connector into the mating plug on the *T2+*. Make sure the connector is oriented properly before attempting to insert it.



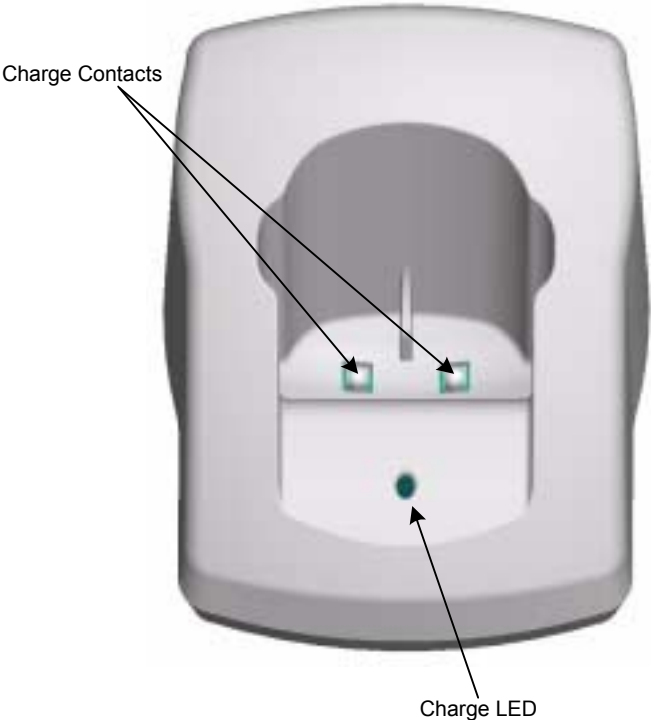
The *T2+* is powered-up by touching any area of the display or any keypad button. If the tilt sensor is enabled, picking up the unit will also turn it on.

REMOTE REFERENCE

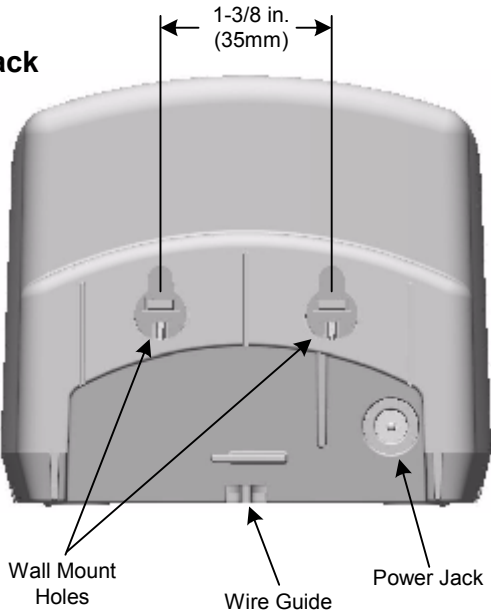


DOCKING STATION REFERENCE

Front



Back



Chapter 3. Operation

THE TOUCHSCREEN DISPLAY

The *T2+* touchscreen display is organized as a series of pages and frames. A page consists of one to twelve frames, and only one frame is displayed on the screen at a time.

Normally each frame on a page contains objects (buttons, text, graphics, etc.) that are related in some way. For instance, they may all display information necessary for controlling a particular DVD player.

By default, the *T2+* has one *Home* page—all other pages are normally accessed from links on the Home page. In addition, any page can contain a button with a link to any other page when selected.

Normally the Home page is used to display the names of the equipment being controlled. The *T2+* will support 63 pages plus the Home page; each page can consist of up to 12 frames.

A representation of a programmed Home page is shown below:



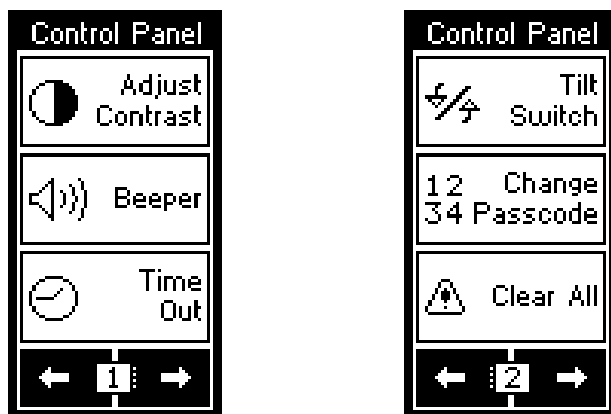
By default, pressing the HOME button at any time will return you to this page. It is possible, however, to program the Home button to behave differently if desired.

THE CONTROL PANEL PAGE

The Control Panel page can be displayed by pressing and holding the backlight button continuously for **3 seconds**.

You can also access the Control Panel page by assigning a “Control Panel” page link to a button using the *TheaterTouch Designer* software.

The Control Panel consists of the following two frames:



To change frames, press the frame **Left**  or frame **Right**  buttons on the lower touchscreen.

To return to the user program, press the Home button.

ADJUST CONTRAST

This button displays a window that allows you to adjust the LCD contrast. Press the **Left Arrow** or **Right Arrow** keypad buttons to adjust. Press the OK button in the window to close.



BEEPER

This button displays a window that allows you to turn the audible beep on or off. The beeper provides feedback that a button was pressed. Press the OK button in the window to close.



TIME OUT

This button displays a window that allows you to adjust the amount of time the unit stays awake after the last button press. The time is variable from 1 second to 60 seconds (the default is 10 seconds). Press the arrows to the left or right of the Time Out setting to adjust the time. Press the OK button in the window to close it. During Sleep mode, the T2+ uses virtually no battery power.



TILT SWITCH

This button displays a window that allows you to adjust the settings for the built-in tilt switch. The tilt switch is a motion detector that turns the remote on when activated.

On means the tilt switch is active and will wake up the T2+ when it is moved.

Off means the tilt switch is inactive.

Press the OK button in the window to close.



CHANGE PASSCODE

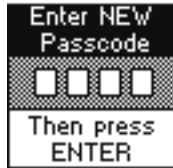
This button displays a window that allows you to set the passcode that is used to limit access to the Clear All function on the Control Panel page, as well as the Button Lockout function that is available on all buttons.

When you press the CHANGE PASSCODE button, the screen will prompt you to enter the **old** passcode using the numeric keypad buttons. Press the ENTER keypad button after entering the numbers.

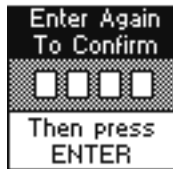
(The default code is 0000).



Now enter a **new** four-digit passcode.



You will be prompted to enter the **new** four-digit passcode again for confirmation.



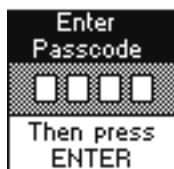
When new code is entered successfully, the “Code Changed” window will pop up to let you know you have changed the passcode.



Do not forget the passcode!

CLEAR ALL

This button displays a window that will allow you to erase the current user program in the T2+. When the button is pressed, you will be prompted to enter the current passcode. If the proper code is entered, the entire user program in the T2+ will be erased.



Warning! This will erase the entire user program in the T2+. Once this is done there is no way to restore it, except by reloading the program from the *TheaterTouch Designer* software!

If you inadvertently press the CLEAR ALL button, simply press the ENTER keypad button without entering the passcode and you will be returned to the Control Panel page.

PROGRAMMING THE T2+

The T2+ is programmed using RTI's *TheaterTouch Designer* software. RTI dealers can download the software for free at:

www.rticorp.com/dealers

A PC running Windows® 98SE or higher with a USB port is required. The required USB cable is included with the RTI *IR-PRO* dealer kit.

Note: The T2+ will not operate normally while connected to a PC's USB port. Make sure you disconnect it from the PC to navigate pages or transmit commands. In addition, the T2+ will not be able to sync with a PC's USB port while it is transmitting a command or running a macro.

Chapter 4. Troubleshooting

If you are having problems with your T2+, please read these troubleshooting tips before contacting technical support.

If you continue to have problems, see Chapter 5 for more information on contacting RTI technical support.

DISPLAY IS DIM, BLANK OR UNREADABLE

Make sure the battery pack connector is attached properly and the battery is charged.

Try adjusting the contrast of the touchscreen on the **Control Panel** page of the remote (Refer to Chapter 3 for more details). By nature, the contrast of an LCD screen changes with temperature, so if the remote is cold the display will be dark and will return to normal as it warms.

USB COMMUNICATION PROBLEMS

Verify that your PC is using Windows 2000® or higher. The *TheaterTouch Designer* software requires a USB device driver that may not be installed on earlier versions of Windows.

Make sure you are using the programming cable that was supplied by RTI and that both ends are connected securely.

Make sure the PC detects the presence of the T2+. If it doesn't, unplug the USB cable, wait for about ten seconds, and plug it in again.

If the download fails after some data has been transferred, try re-sending the program.

IR CODE PROBLEMS

If you are using an IR repeater system, make sure it is working correctly with the original OEM remote. If not, you will need to troubleshoot the IR repeater system.

If you are still having problems, try adjusting the IR code “Minimum Repeats” value in the *TheaterTouch Designer* programming software.

If the IR code is executed inside a macro which contains multiple IR codes, try inserting a small time delay before the problem code. If there already is a delay, try increasing it.

Chapter 5. Service and Support

UPDATES AND NEW PRODUCTS

For news about the latest updates, new product information and accessories, please visit our web site at:

www.rticorp.com

CONTACTING REMOTE TECHNOLOGIES INCORPORATED

For general info, you can contact RTI at:

Remote Technologies Incorporated

Tel. (952) 253-3100

Fax (952) 253-3131

info@rticorp.com

www.rticorp.com

RTI TECHNICAL SUPPORT

At RTI, customer service and satisfaction is an utmost priority. If you are encountering any problems or have a question about your RTI product, please contact RTI Technical Support for assistance.

RTI provides technical support by telephone, fax or e-mail. For the highest quality service, please have the following information ready, or provide it in your fax or e-mail.

- Your Name
- Company Name
- Telephone Number
- E-mail Address
- Product model and serial number (if applicable)

If you are having a problem with hardware, please note the equipment in your system, a description of the problem, and any troubleshooting you have already tried.

If you are having a problem with software, please note what version you have installed, the operating system on your PC, a description of the problem, and any troubleshooting you have already tried.

If you are calling about a software or programming question or problem, please be at your computer when you place your call. This will considerably speed up the troubleshooting process.

For **Technical Support** or assistance with your RTI product, contact RTI at:

(952) 253-3137

support@rticorp.com

www.rticorp.com/support

For questions regarding **Service or Repair** of your RTI product, contact RTI at:

(952) 253-3136

service@rticorp.com

www.rticorp.com/service

Please do not return products to RTI without return authorization.

Specifications

Power	3.6 VDC, 1050 mAH Li-Ion Battery Pack
Power Management	Automatic On/Off (tilt switch)
Infrared Control Range	30 Feet (9.1m) @ 60 Degrees
Infrared Frequency Range	15kHz – 460kHz
Radio Frequency Control Range	Up to 100 Feet (30.5m) (with optional receivers)
Radio Frequency Carrier	433MHz
Operating Temperature	+32°F to +122°F (+0°C to +50°C)
Operating Humidity	5% to 95% Non-condensing
Display	High-contrast STN LCD 128 x 64 pixels (Dark Blue on White)
Touchscreen	Digital Matrix, 7 x 2 Touchscreen never needs calibrating
Display size (HW)	2.4 in. x 1.3 in. (61mm x 33mm)
Backlights	White EL (Display) Blue EL (Keypad)

Nominal Run Time on Full Charge	5 hours continuous use (10 - 15 days average use)
Standby Time on Full Charge	30 Days
Battery Charge Time	3-4 Hours
Total System Memory	256K Bytes Flash (non-volatile)
Device Capability	Total number of devices limited only by memory
Macro Capability	Up to 64 steps per macro Total number of macros limited only by memory Macros allowed on every button
Communications	USB programming port
Dimensions	Length: 9.9 in. (251mm) Width: 2.5 in. (64mm) Height: 1.1 in. (28mm)
Enclosure	High-impact molded ABS plastic.
Weight	8.5 oz. (243g) with battery pack
Warranty	One Year Parts & Labor (90 days on battery pack)

All specifications are subject to change without notice.

It's Under Control®



Remote Technologies Incorporated

**18681 Lake Drive East
Chanhassen, MN 55317**

Tel: 952-253-3100

Fax: 952-253-3131

www.rticorp.com